AMENDMENTS TO THE CLAIMS

Claims 1-5 (canceled)

Claim 6 (currently amended) A method of measuring the amount of oxidative stress in an individual, comprising the steps of:

(a) collecting tissue of interest from said individual;

(b) measuring ~~the~~ amount of mitochondrial DNA damage in said tissue of interest;

(c) ~~wherein said mitochondrial DNA damage is correlated with measurement selected from the group consisting of measurement of~~ measuring one or more of ~~mitochondrial~~ mRNA production, ~~measurement of mitochondrial~~ protein production, ~~measurement of changes in~~ ~~mitochondrial~~ oxidative phosphorylation and ~~measurement of changes in~~ ~~mitochondrial~~ ATP production in said mitochondria in said tissue of interest, wherein a decrease in one or more of said measurements is correlated with said mitochondrial DNA damage;

(c) determining ~~the~~ amount of DNA damage in a nuclear gene in said tissue of interest; and

(d) comparing the amount of DNA damage per length of DNA between said mitochondrial DNA and said nuclear gene, wherein a greater amount of mitochondrial DNA damage per length of DNA than nuclear DNA damage per length of DNA is indicative of an increased amount of oxidative stress in said individual.

Claim 7 (original) The method of claim 6, wherein said nuclear gene is selected from the group consisting of the β-globin locus, transcriptionally active genes and transcriptionally inactive genes.

Claim 8 (previously presented) The method of claim 6, wherein said mitochondrial DNA damage and DNA damage to said nuclear gene is determined by quantitative PCR, wherein said DNA is treated with FAPY glycosylase prior to said PCR amplification for detection of 8-oxo-G-lesion.

Claim 9 (original) The method of claim 6, wherein increased amounts of oxidative stress are predictive of atherogenesis,

hypertension, diabetes mellitis, hypercholesterolemia, cigarette smoking, degenerative diseases of aging and cancer.

Claims 10-13 (canceled)